



United States
Department of
Agriculture

Forest
Service

Arizona Zone
Entomology and
Pathology

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Route To:

Subject: 1999 Insect and Disease Aerial Detection Survey

To: Area Director

Bureau of Indian Affairs

Navajo Area Office

Branch of Forestry

P.O. Box 1060

Gallup, NM 87305

The Arizona Zone of Entomology and Pathology conducted the annual insect and disease aerial survey for the Navajo Indian Reservation on August 30-31 and September 1, 8 and 9, 1999. This letter provides a summary of insect and disease conditions seen on the Reservation at the time of these flights.

Mortality in the ponderosa pine type due to bark beetles was slightly down in 1999 (82 acres) from 1998 (126 acres). Mortality in 1999 was attributed to *Ips* spp., mountain pine beetle and western pine beetle. Small pockets of mortality usually ranged from 1 to 10 trees, and was scattered throughout the ponderosa pine type on the Reservation.

Aspen defoliation increased from 4,328 acres in 1998 to 10,850 acres in 1999. Defoliation ranged from light to heavy (light, 944 acres and heavy 9,906 acres) and was scattered throughout the Chuska Mountains. Two factors were responsible for the defoliation in 1999; first, large aspen totrix, a moth, fed on young leaves, this was followed by a late season freeze which damaged the still tender leaves. Western spruce budworm defoliation increased in 1999 to 10,145 acres (light defoliation, 2,436 acres; heavy defoliation, 7,709 acres) from 2,803 acres in 1998. The largest areas of continuous defoliation was found in the Chuska Mountains to the east and southeast of Lukachukai.

Spruce mortality increased from 140 acres in 1998 to 2,169 acres in 1999. Mortality occurred in small pockets of 1 to 20 trees up to larger polygons of 150-300 trees. The majority of the mortality was recorded in the Lukachukai Mountains. Douglas-fir mortality decreased from 29 acres in 1998 to 2 acres in 1999.

Pinyon sawfly, in conjunction with pinyon needle scale, continue to defoliate pinyon trees near Canyon de Chelly, although the populations have decreased considerably. Only light defoliation was recorded on 146 acres on the National Monument and the surrounding Reservation lands down from 1998, when 52,550 acres of light to heavy defoliation were recorded. The Arizona Zone will continue to include this area in the annual aerial detection survey.

Evidence of fire was recorded on 952 acres of the Navajo Reservation.

Electronic format copies of the map files and data are available to the Area Office, Bureau of Indian Affairs staff and to Navajo Forestry for use on any projects where this information would be of value. Please forward this letter to the appropriate personnel.



If you have any questions concerning the survey, the information included here, or the availability of maps, please feel free to contact Bobbe Fitzgibbon (520-556-2072) or Steve Dudley (520-556-2071).

/s/ Bobbe Fitzgibbon

Bobbe Fitzgibbon

Acting Zone Leader, Arizona Zone Entomology and Pathology

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